

**Pollution Prevention Plan**  
**for**  
**Conant Brook Dam**

September 1996



**US Army Corps  
of Engineers**  
New England Division

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# POLLUTION PREVENTION PLAN

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**LOCATION:**


CONANT BROOK DAM  
MONSON, MASSACHUSETTS

**PREPARED BY:**

ENGINEERING DIRECTORATE  
WATER CONTROL DIVISION  
ENVIRONMENTAL ENGINEERING  
AND HYDRAULICS BRANCH

**APPROVED BY:**

  
R. BRUCE WILLIAMS  
Division Environmental  
Compliance Coordinator

  
J. C. WONG  
Director of Operations



US Army Corps  
of Engineers  
New England Division

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## TABLE OF CONTENTS

<u>Paragraph</u>	<u>Subject</u>	<u>Page</u>
1	INTRODUCTION	
	a. Background Information	1
	b. Pollution Prevention Strategy for the Corps of Engineers	2
2	APPENDICES/DEFINITIONS	3
3	PURPOSE AND OBJECTIVES	3
4	CORPS OF ENGINEERS PHILOSOPHY AND POLICY ON POLLUTION PREVENTION	4
5	CORPS OF ENGINEERS GOALS IN POLLUTION PREVENTION	4
6	ASSUMPTIONS	7
7	PROJECT DESCRIPTION AND LOCATION	7
8	ROLES AND RESPONSIBILITIES	
	a. Commander	8
	b. Director of Operations	9
	c. Environmental Compliance Coordinator	9
	d. Chief, Environmental Engineering and Hydraulics Branch	10
	e. Thames River Basin Manager	10
9	FUNCTIONS AND ACTIVITIES	
	a. Routine Activities	11
	b. Leased Areas	12
	c. Oil Tanks	12
	d. Hazardous Substances	12
	e. Waste Streams	12
10	JURISDICTION	12

<u>Paragraph</u>	<u>Subject</u>	<u>Page</u>
11	ENVIRONMENTAL REVIEW GUIDE FOR OPERATIONS (ERGO) PROGRAM	12
12	SCOPE OF POLLUTION PREVENTION PLAN	13
13	UPDATE FREQUENCY	13
14	TRAINING	13
15	PUBLIC INFORMATION	14
16	COORDINATION WITH CONTRACTING AND LOGISTICS DIRECTORATES	14
17	IMPLEMENTATION GUIDANCE	14
18	IMPLEMENTATION PLANS	
	a. Hazardous and Nonhazardous Wastes	15
	b. Substitute Products	15
	c. Purchasing of Products	15
	d. Material Safety Data Sheets (MSDS)	16
	e. Paints and Thinners	16
	f. Hazardous Waste Disposal	16

## APPENDICES

### Appendix

### Subject

A	Figures
	1 Conant Brook Dam Location Map
	2 Thames River Basin Map
	3 Conant Brook Dam Layout
	4 Conant Brook Dam Reservoir Map
B	Oil Storage Tank Inventory
C	Chemical Product Inventory
D	Listing of Oil and Hazardous Substances and Reportable Quantities
D1	Oil and Other Petroleum Products Stored at Conant Brook Dam
D2	Reportable Quantities of Oil and Other Petroleum Products per 310 CMR
D3	List of Hazardous Substances and Reportable Quantities per 40 CFR 302
E	Project Activities and Related Wastes
F	Conant Brook Dam's Pollution Prevention Strategy Sheet
G	Recyclable Items at Conant Brook Dam
H	Massachusetts Department of Environmental Conservation Recycling Services Directory
I	Pollution Prevention Technical Assistance Programs
J	Defense Logistic Agency Centers
K	Executive Order 12856
L	Title 40, CFR, 1995 Revision, Part 112.7; Oil Pollution Prevention
M	Glossary
N	References
O	Amendments/Changes to P2 Plan

## POLLUTION PREVENTION PLAN

### 1. INTRODUCTION

a. Background Information. Executive Order (EO) 12856, "Federal Compliance with Right-To-Know Laws and Pollution Prevention Requirements" was signed by the President on 3 August 1993 to challenge the Federal Government to become a leader in pollution prevention and be a good neighbor by providing local and State authorities with information concerning Federal Government use of toxic and hazardous chemicals and extremely hazardous substances.

The EO extends the coverage of the 1986 law "Emergency Planning and Community Right-to-Know Act" (EPCRA - 40 CFR 372) to Federal facilities. Private industry has been responding to the 1986 law since its inception, and the Federal community is now doing the same.

The requirements of EO 12856, and other related Environmental Executive Orders, were incorporated into a Comprehensive Pollution Prevention Strategy and signed by the Secretary of Defense on 11 August 1994. This strategy is effected across all the Departments, including the Department of Army, and the Corps of Engineers. EO 12856 applies to all Departments of Defense, Department of the Army, and Corps of Engineers facilities within the territory of the United States; in effect, all Corps of Engineers civil works facilities and projects.

The Director of Civil Works, issued a statement regarding the Corps policy for pollution prevention on 10 August 1995. He cited the environmental ethic and stewardship which are so much an integral part of the civil works community, and called upon the Corps family to embrace and implement all aspects of the President's EO.

One primary product of the EO is a Pollution Prevention Plan (P2 Plan) for "covered" Corps of Engineers civil works facilities and projects. Initially, projects and facilities reporting under any of the several sections of EPCRA are considered as "covered facilities," and have prepared plans leading to the reduction of pollution for their operations. Eventually, all facilities of any significant size will have a P2 Plan as a framework for pollution prevention and sound environmental practices.

Pollution prevention has as its focus the elimination or modification of activities to achieve a more desirable environmental end result. Pollution prevention includes any practice which reduces the amount of hazardous substances, pollutants, or contaminants entering the waste stream or otherwise released into the environment, prior to recycling, treatment, or disposal, and any practice which reduces the hazards to public health and the environment associated with the release of such substances, pollutants, or contaminants. The Corps of Engineers early efforts at pollution prevention were sometimes referred to as "waste minimization."

b. Pollution Prevention Strategy for the Corps of Engineers. The Corps of Engineers welcomes the President's vision as expressed in EO 12856 that . . . "Federal facilities will set the example for the rest of the country and become the leader in applying pollution prevention to daily operations, purchasing decisions, and policies . . . " The Corps reaffirms its obligations as a responsible neighbor in communities where our civil works facilities and projects are located. Pollution prevention at Corps facilities will not only reduce the amount of potentially harmful substances that are released, it will provide a safer environment for visitors, contractors, and employees, and a safer environment for communities near Corps facilities. Pollution prevention has the additional benefit of conserving our valuable and finite natural resources, and will prevent costly cleanup of facilities, waters, and lands. Corps participation in community right-to-know efforts will ensure that we are responsive to community needs and that our facilities appreciate their responsibility as part of the community.

The U.S. Environmental Protection Agency (EPA) recommends the following seven step process for pollution prevention.

- Develop Pollution Prevention Goals.
- Obtain Management Commitment.
- Establish a Pollution Prevention Team.
- Develop a Baseline.
- Conduct Pollution Prevention Opportunity Assessments.
- Develop Criteria and Rank Activities/Opportunities.
- Conduct a Management Review.

This document addresses the complete process, with a focus on what management needs to finalize a comprehensive pollution prevention program.

Pollution prevention opportunity assessments lead to identification of techniques and technologies to reduce waste generation. Pollution prevention opportunity assessments are achieved through in-house efforts, contracts with environmental firms, use of personnel from other Corps offices, with EPA or other regulators, or through combinations of these elements.

## 2. APPENDICES/DEFINITIONS

Appendices are provided to the project under separate cover.

Definitions of terms and acronyms used in this plan are listed in the Glossary in Appendix M.

## 3. PURPOSE AND OBJECTIVES

Conant Brook Dam will fully support the Corps of Engineers pollution prevention policy and goals through the following specific objectives. By 1 July 1996, the East Brimfield Lake project will: (a) Identify specific waste generating processes and develop a baseline inventory of major categories of wastes produced, and (b) prioritize waste problems and/or inefficiencies for the Conant Brook facility.

By 31 December 1996, East Brimfield Lake will develop a strategy for Conant Brook Dam using the Pollution Prevention Opportunity Assessments and other technical sources to reduce the use of hazardous materials, minimize production of hazardous and other wastes, and eliminate pollutant emissions to the environment to the maximum extent technologically and economically feasible.

The Conant Brook Dam P2 Plan provides a strategy and list of action items to integrate pollution prevention into all activities and processes. The plan provides a process for development and implementation of a facilitywide, multimedia P2 Plan that will enable this facility to meet all pollution prevention plans and goals. The result will be more efficient operations, and a cleaner and safer working environment.



#### 4. CORPS OF ENGINEERS PHILOSOPHY AND POLICY ON POLLUTION PREVENTION

As previously noted, pollution prevention is a "source reduction" approach to creating a better environment. It reaches beyond the end-of-pipe or end-of-stack solutions to avoid the generation of waste or environmental releases, and stresses the management of all environmental media (air, land, water) together. The Corps subscribes to a hierarchy of options for managing waste. Source reduction is the most desirable, then recycling, treatment, and disposal complete the hierarchy. These will be discussed in greater detail in this plan.

Pollution prevention can be achieved through a number of activities: process efficiency improvement, material substitution, inventory control, preventive maintenance, and improved housekeeping. Often these activities will require capital investments to implement. The basic cost of these pollution prevention actions may be significant; however, the savings or cost avoidance over a reasonable investment period due to reduced energy, materials, labor, compliance costs, or environmental consequences, make these cost effective. This "life-cycle" cost estimating is the recommended approach to implementing pollution prevention measures.

#### 5. CORPS OF ENGINEERS GOALS IN POLLUTION PREVENTION

EO 12856 sets a goal of 50 percent reduction of toxic chemicals by 31 December 1999. The goal applies to the agency (Department of Army) in its use of toxic chemicals (facilities covered by section 313 of EPCRA). Conant Brook Dam does not meet the requirements of section 313 (TRI) pollutants and does not report against the 50 percent reduction goal.

New England Division (NED) has set a target of 25 to 50 percent reduction of a river basin's waste stream by 31 December 1999. This goal is the sum total percent reduction at each water control project within the respective river basin. The baseline year for calculating the reduction of a river basin's waste stream is calendar year 1994. This year was chosen as a baseline to reflect the pollution prevention measures/waste reduction activities that were carried out prior to issuance of this plan.

The following page is a worksheet designed to facilitate tracking the project's waste reduction. Total volume and

percent reduction of each waste category should be calculated each year. Percent reduction is calculated using the base-line year (1994). This worksheet allows East Brimfield Lake personnel to track the reduction of certain wastes and observe if they are on target for reaching their waste reduction goals at Conant Brook Dam.

Another goal for NED's water control projects is to reduce all hazardous substances/wastes to levels below reportable quantities/limits. The reportable quantities/limits observed shall be the more restrictive of those set by the State or Federal Government.

Also, all chemical/oil storage tanks at each project shall have an approved secondary containment structure. An approved structure shall follow Federal Regulation 40 CFR 112.7 (see Appendix L) and the Corps of Engineers EM 385-1-1, section 09.B.27(d). Check the SPCCP/SCP for Conant Brook Dam, available at the East Brimfield Lake project office, for additional information on secondary containment.

Following is a table summarizing the goals concerning pollution prevention. These goals are also listed in Appendix F, Conant Brook Dam's Pollution Prevention Strategy Sheet, in the event subsequent goals need to be added.

CONANT BROOK DAM'S POLLUTION PREVENTION STRATEGY		
Goal	Established By	Target Date
Contribute to the 25 to 50% reduction of the total waste stream within the Thames River Basin.	NED	1999
Reduce all hazardous substances/wastes located at Conant Brook Dam to quantities below reportable quantities/limits that are set by the MA DEP.	NED	1999
Provide approved secondary containment structures for all chemical/oil storage tanks located at Conant Brook Dam.	NED	1999

## Conant Brook Dam Waste Reduction Worksheet

Material	1994	1995	1996	1997	1998	1999
	(Baseline Year) Total Volume	Total Volume	% Reduction	Total Volume	% Reduction	Total Volume
Hazardous Wastes						
Petroleum, Oil, and Lubricants (POLs)	0					
Paints and Allied Products	0					
Chemicals and Solvents	0					
Asbestos	0					
Treated Wood	0					
Equipment/Vehicle Maintenance Wastes	0					
Other (Car Batteries)	2					
Non-Hazardous Wastes						
Recyclable Wastes	0					
Compostable Wastes	3 CY					
Non-recyclable Wastes	8 CY					
Construction and Demolition	20 CY					
White Metal Goods	3 CY					
Tires	20					
Other	0					

## 6. ASSUMPTIONS

- a. This plan is in effect and implemented continuously.
- b. The Thames River Basin Manager is responsible for pollution prevention at Conant Brook Dam.

## 7. PROJECT DESCRIPTION AND LOCATION

Conant Brook Dam is located on Conant Brook in the town of Monson, Hampden County, Massachusetts (see figure 1 in Appendix A for a location map). The dam is situated approximately 7.4 river miles upstream from the Quaboag River, approximately 12 miles upstream from the confluence of the Quaboag and Chicopee Rivers, and nearly 30 river miles upstream from the mouth of the Chicopee River. Monson Reservoir, an emergency water supply source, is located downstream of the dam.

Conant Brook, the principal tributary of Chicopee Brook, joins this stream approximately 1.7 miles downstream from Conant Brook Dam. Chicopee Brook flows in a northerly direction through the center of South Monson, Monson, and North Monson, and joins the Quaboag River 4.6 miles upstream from the Chicopee River. Conant and Chicopee Brooks have a total drainage area of 23.8 square miles at the confluence of Chicopee Brook and the Quaboag River. The drainage area, which is L-shaped, has a total length of eight miles and an average width of three miles. The watershed is entirely within the town limits of Monson except for a small portion at the upper end of Conant Brook, which is in the town of Wales.

Conant Brook Dam is a single-purpose flood control project built and operated by the Corps of Engineers. Construction was initiated in June 1964 and completed in September 1966. Because the project is self-regulating, personnel are not stationed there. Conant Brook Dam is 1 of 2 flood control reservoirs built and operated by the Corps in the Chicopee River watershed to reduce flood stages at downstream communities. The East Brimfield Lake project manager is responsible for Conant Brook Dam and, through periodic visits there, checks conditions which might affect regulations at the project. A basin map is shown on figure 2 in Appendix A.

At spillway crest elevation 757 feet NGVD, the normally dry bed Conant Brook reservoir has a flood control storage

capacity of 3,740 acre-feet, equivalent to 9.0 inches of runoff from the contributing 7.8 square mile drainage area. When filled to spillway crest, the reservoir encompasses a surface area of 158 acres.

The dam embankment (shown on figure 3 in Appendix A), approximately 1,050 feet in length with a maximum height of 85 feet above the streambed, consists of rolled earthfill with an impervious core and rock slope protection. The top of the dam, elevation 771 feet NGVD, provides 9.0 feet of spillway surcharge and 5.0 feet of freeboard. The top width of 20 feet accommodates a 16-foot wide paved access road, and the embankment slopes vary from 1V on 3.0H to 1V on 2.5H.

The project area totaling 469 acres, is all owned by the Government in fee, although approximately 85.5 acres are leased out for agricultural purposes. There are two acres in easement for Blanchard Road but no flowage easements. A reservoir map is shown on figure 4 in Appendix A.

The project is managed primarily as a flood control project; however, project lands are open to the public for a variety of uses, with the State stocking pheasant yearly. Since there is no resident project manager, there is a minimum of active site management in terms of project development, landscaping, and reclamation. Nevertheless, the project is used on a year-round basis for various outdoor recreational activities. A combination of varied terrain, put-and-take sports fishery, diverse wildlife species, and the ease of access makes the project an obvious attraction in an era of increased outdoor recreational demand. A Reservoir Map is shown in figure 4, Appendix A.

## 8. ROLES AND RESPONSIBILITIES

### a. Commander

(1) Exercise overall control of Division facilities, NED personnel, and contractor personnel who manage pollution-generating activities.

(2) Support programs and budgets for personnel, materials, equipment, and training required to implement pollution prevention strategies.

(3) Ensure coordination between various Division elements regarding the compliance of contractors and other pollution prevention partners.

b. Director of Operations

(1) Exercise overall control of NED's flood control facilities, Corps personnel, including those of the contractor, that manage or contribute to pollution generating activities.

(2) Ensure that pollution prevention measures accomplish acceptable reduction levels.

(3) Support programs and budgets for personnel, materials, equipment, and training required to implement pollution prevention strategies.

c. Environmental Compliance Coordinator

(1) Review and approve P2 Plan, revisions, and amendments.

(2) Integrate pollution prevention in the Division's Comprehensive Environmental Stewardship program and oversee field office staff concerning pollution prevention methods.

(3) Coordinate development of pollution prevention opportunity assessments and preparation of field office P2 Plans. Review plans for effectiveness and compliance with environmental regulations. Coordinate review of plans by internal Division elements and those outside NED.

(4) Prioritize funding for pollution prevention activities and equipment.

(5) Prompt periodic reviews and evaluations of P2 Plans to monitor the performance of pollution prevention projects (reviews will be conducted according to the schedule determined most appropriate [ERGO, etc.], or as significant waste stream changes occur). The periodic reviews will include whether more effective prevention and control applications are available for use in the facility's P2 program.

(6) Advise Director of Operations when the P2 Plan is not in compliance with regulatory requirements.

d. Chief, Environmental Engineering and Hydraulics Branch

(1) Supervise production and review of P2 Plan for conformance and compliance with applicable Federal, State, and local regulations.

(2) Execute periodic technical reviews of P2 Plan.

e. Thames River Basin Manager

(1) Exercise overall control of East Brimfield Lake personnel who are involved in waste generating activities at Conant Brook Dam.

(2) Ensure that pollution prevention is accomplished to acceptable levels.

(3) Coordinate with non-Corps elements (e.g., contractors, State and local regulators, etc.) regarding compliance of contractors and waste generators.

(4) Maintain the P2 Plan for Conant Brook Dam on file at East Brimfield Lake.

(5) Program and budget for personnel, materials, equipment, and training required for implementing pollution prevention strategies.

(6) Revise and resubmit the P2 Plan whenever there is a significant change in facility design, construction, operation, or maintenance which affects the facility's waste streams.

(7) Manage preparation and amendments of the Conant Brook Dam P2 Plan.

(8) Review deficiencies and initiatives to improve pollution prevention in the first month of each quarter and follow through to completion.

(9) Ensure that all waste streams at the project are addressed in the P2 Plan.

(10) Perform periodic management actions to verify compliance with the P2 Plan for Conant Brook Dam by East Brimfield Lake. Maintain informal documentation to support inspections and any subsequent program revision.

(11) Prepare and update baselines for hazardous material use and waste generation.

(12) Perform periodic visual surveillance of Conant Brook Dam under East Brimfield Lake's responsibility to verify compliance with this plan.

(13) Maintain any special equipment and material used for pollution prevention at the project.

(14) Investigate potential pollution prevention opportunities as changes in waste streams occur.

(15) Coordinate with project manager at East Brimfield Lake regarding pollution prevention training programs for the Conant Brook project.

#### 9. FUNCTIONS AND ACTIVITIES:

a. Routine activities. Typical activities at Conant Brook Dam include the maintenance of flood control projects, mowing of embankments and grounds, and debris removal from the reservoir.

These activities are contracted out to commercial companies (contractors) who perform the work. Any waste oil generated from these activities (e.g., use of chain saws, engines, etc.) during their work are disposed of by the contractor. In the case of a contractor's noncompliance with safety and environmental standards, Corps officials have the option of stopping his work, and/or seeking compensation from him for expenses incurred in fulfilling safety or environmental obligations.

In situations where waste oil is generated by East Brimfield Lake personnel at Conant Brook Dam (e.g., emergency oil change on a Corps-owned vehicle or piece of equipment), the waste oil will be taken to the town's disposal center.

Conant Brook Dam is registered as a small quantity generator of waste oil with the Environmental Protection Agency (EPA). This registration as a small quantity generator addresses the issue of generating, handling, and disposing of waste oil by East Brimfield Lake personnel. The project's EPA small quantity generator ID number is MA960016061. The recommended procedure, for project personnel to follow when generating waste oil, is outlined in Appendix K of this plan.



Reportable quantities for hazardous substances determined by the Massachusetts Department of Environmental Protection (MA DEP) are listed in Appendix B1. Space is provided in Appendix B2 to list hazardous substances and their RQs, as defined and tabulated under 40 CFR 302.

b. Leased Areas. Approximately 85.5 acres of land at Conant Brook Dam is leased out for agricultural purposes. The following paragraph provides guidance for leased land.

Pollution prevention for lessee facilities and activities on Corps lands are the responsibility of the "lessee," also referred to as the "lease area operator." Where leased areas are mandated by Federal or State Regulations to have and maintain a pollution prevention plan, the lessee will comply with appropriate pollution prevention requirements and State and Federal Regulations.

c. Oil Tanks. There are no oil tanks at Conant Brook.

d. Hazardous Substances. No chemicals are kept at Conant Brook Dam.

e. Waste Streams. There are no areas at Conant Brook Lake where waste is generated.

Appendix E contains a list of specific processes and associated wastes that could be generated by these processes which may occur in the future at Conant Brook Lake.

## 10. JURISDICTION

The Massachusetts Department of Environmental Protection (DEP) Western Region Office (telephone: 413-784-1100), and the U.S. Environmental Protection Agency, Region I, Boston, Massachusetts (telephone: 617-223-7265) are the State and Federal agencies coordinating with East Brimfield Lake personnel regarding pollution prevention at Conant Brook Dam.

## 11. ENVIRONMENTAL REVIEW GUIDE FOR OPERATIONS (ERGO) PROGRAM

Conant Brook Dam complies with Corps policy and is assessed for environmental compliance by an external team every five years. An environmental compliance assessment of the project was conducted by an interdisciplinary team of New England Division environmental professionals (external team) on 17 June 1993. The assessment was conducted as part of the

Corps ERGO program, which establishes the use of environmental compliance assessments to ensure compliance with all applicable Federal, State, local, Department of Defense (DOD), and U.S. Army laws and regulations. This facility's next external assessment is scheduled for 1998.

Each year East Brimfield Lake personnel perform a self-assessment of Conant Brook Dam's environmental compliance status.

## 12. SCOPE OF POLLUTION PREVENTION PLAN

The P2 Plan applies to all activities at the project.

Concession, outgrant, and lease area activities are not considered in the Conant Brook Dam P2 Plan; however, all non-Corps activities will be encouraged to implement similar pollution prevention strategies.

## 13. UPDATE FREQUENCY

The Conant Brook Dam P2 Plan should be updated every five years during the same year as the ERGO external assessment. The next update is scheduled for 1999.

Scheduling of P2 Plan updates the same time as ERGO assessments leads to improved coordination, preventing duplication of work. The P2 Plan update will address changes in policy and procedures, product substitutions, process changes, and other pertinent information. The review and updating will include a summary of goals met and revised objectives.

## 14. TRAINING

To implement a successful pollution prevention program, communication and training are crucial to convey up-to-date information, and to foster a pollution prevention ethic that is supported by the entire facility staff. Since 1993 the Corps has provided information and guidance to Division Environmental Compliance Coordinators (ECCs) on compliance with EO 12856 and other Pollution Prevention Executive Orders and Policy Directives. Headquarters, Environmental Compliance Branch of Operations, Construction and Readiness Division, (CECW-OA) will continue providing information on policy and regulations through the Division ECC, who will forward information to each basin. While there are no

specific requirements for pollution prevention training, all facility staff will receive pollution prevention awareness and energy efficiency training. This training may take place during biweekly safety meetings. Technical information on pollution prevention strategies and training opportunities may be obtained from sources outside the Corps such as State EPA Pollution Prevention Coordinators. Additional sources of pollution prevention information can be found in Appendix I.

#### 15. PUBLIC INFORMATION

Executive Order 12856 requires projects and facilities to provide the public with access to their pollution prevention plans and programs. In compliance with this EO, these plans will be maintained onsite for review by the public, EPA, and State regulators; a copy will be provided to regulatory agencies upon request.

#### 16. COORDINATION WITH CONTRACTING AND LOGISTICS DIRECTORATES

In order to comply with pollution prevention requirements changes in purchasing materials or contracting for services may be necessary. Executive Order 12873 requires that Federal agencies procure products that are environmentally preferable or made with recycled materials. Executive Order 12843 requires that Federal agencies maximize use of alternatives to ozone-depleting substances. Executive Order 12845 requires that new computer purchases meet "Energy Star" efficiency requirements. New requirements will continue to be developed. Technical specifications and General Services Administration (GSA) contracts may not all be up-to-date on these requirements.

The Thames River Basin Manager will coordinate closely with the Division Contracting and/or Logistic staff to ensure that all future purchases and disposal actions are not only in compliance with specific requirements, but also support the project and agency goals for pollution prevention.

#### 17. IMPLEMENTATION GUIDANCE

Following are guidelines for management of wastes at the Conant Brook Dam project:

- a. Waste should be reduced at the source whenever possible.

b. If it is determined that a waste can be recycled, it should be done to the fullest extent possible.

c. Wherever possible and economically practical, non-toxic/hazardous replacements for hazardous materials should be used.

d. Storage, disposal, and recycling of wastes should comply with all appropriate Federal, State, local, and U.S. Army Regulations/requirements.

e. Hazardous waste should be safely controlled, accounted for with an audit trail and chain of custody, and handled in accordance with legal requirements.

For specific management practices of hazardous and non-hazardous wastes, refer to appropriate Federal, State, and local regulations/guidelines.

#### 18. IMPLEMENTATION PLANS

a. Hazardous and Nonhazardous Wastes. All wastes should be segregated and identified as hazardous or nonhazardous. Waste definitions are shown in Appendix M.

Hazardous and nonhazardous wastes have different disposal requirements (see State Regulations for specific requirements); segregation of wastes will streamline the disposal process.

b. Substitute Products. Project personnel at East Brimfield Lake shall purchase and use alternative, nontoxic products in place of hazardous materials where feasible. Substances such as ethylene-glycol antifreeze should be replaced with propylene-glycol antifreeze. Liquid-cell batteries in project vehicles should be replaced with batteries that have a gel-type substance in their cells.

The Defense Logistics Agency (DLA) provides catalogs listing products and their respective alternatives. To order these catalogs or request information on alternative products call DLA at 1-800-345-6333. Appendix J contains a list of various centers within the DLA supplying information on alternative products.

c. Purchasing of Products. Purchase of paints, pesticides, and other hazardous substances should be kept to a minimum, or on an "as needed" basis. Any residual quantity

should be disposed of in compliance with Federal and State Regulations.

d. Material Safety Data Sheets (MSDS). MSDS for all inventory products should be kept on file at East Brimfield Lake. For products no longer on site, the respective MSDS should be removed from the file. An accurate inventory of products used, location, and quantities on hand shall be kept at the East Brimfield Lake project to assist in managing of MSDS.

e. Paints and Thinners. There are no paints, stains, or thinners at the project. Supplies for use at Conant Brook Dam are no longer "stockpiled" at East Brimfield Lake; instead, they will be purchased on an "as needed" basis. Also, where feasible and economically practicable, water-based paints shall be used in replacement of those oil-based.

f. Hazardous Waste Disposal. All hazardous waste should be disposed of through a licensed hauler and sent to a licensed facility. A hazardous waste manifest will accompany all materials, and appropriate record keeping will be maintained. Only East Brimfield Lake personnel authorized by the Division Commander may sign/execute the manifests. This authorization must be in writing and stating the employee is within the scope of work when executing these documents. All records pertaining to hazardous waste shall be maintained at the East Brimfield Lake office for three years.